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Saranathan et al.

U.S. Serial No. 09/681,068

**ELECTION**

The Examiner has identified four groupings of claims, each corresponding to one of the four independent claims, Group I containing claims 1-9, Group II containing claims 25-32, Group III containing claims 10-18, and Group IV containing claims 19-24. Applicant elected, with traverse, claims 1-9 of Group I in the Election mailed April 21, 2003. Applicant again elects, with traverse, Group I, claims 1-9.

**TRAVERSAL REMARKS**

In setting forth the four-way restriction of claims 1-32, the Examiner substantially repeated the basis of restriction that was originally presented in the Restriction Requirement mailed March 21, 2003. As such, Applicant incorporates herein, in its entirety, the Election with Traverse mailed April 21, 2003 as those remarks sufficiently address the Examiner's basis for restriction, and the following remarks supplement those presented on April 21, 2003. A copy of the Election filed April 21, 2003 is enclosed and is considered as part of this response.

Applicant must point out that the one slight change in the Office Action mailed July 15, 2003 compared to the Office Action mailed March 21, 2003 lies in that the Examiner originally stated "In the instant case the process can be practiced with another materially different product such as a product with a reconstructed image based on at least one R-R interval or on a combination of first and second sets of partial MR image data." (Emphasis added) March 21, 2003 Office Action, pg. 2. In contrast, in the July 15, 2003 Office Action, the Examiner stated "In the instant case the process can be practiced with another materially different product such as a product capable of reconstructing an image based on at least one R-R interval or on a combination of first and second sets of partial MR image data." (Emphasis added) July 15, 2003 Office Action, pg. 2. Given the extensive similarities between the March 21, 2003 and July 15, 2003 Restriction Requirements, it would appear that the basis of the restated restriction lies in the Examiner's belief that, in the instant case, the process that is claimed may be practiced with another materially different product such as a product capable of reconstructing an image as opposed to with a product with a reconstructed image, as originally asserted. It is unclear, however, how the Examiner's redefining of the

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"product" in the July 15, 2003 Office Action necessitated a restatement of the restriction of claims 1-32.

It would appear that the motivation for the Examiner to provide a restatement of the Restriction Requirement with the minor change in the basis of restriction lies in the fact that Applicant challenged the alternative product first presented by the Examiner in the March 21, 2003 Office Action. However, the change in phraseology noted above in the restated Restriction Requirement does not amount to a viable alternative as required by MPEP §806.05(h). In fact, the circular logic applied by the Examiner supports a rejoinder of claims 1-32.

The Examiner states that in the instant case, the process can be practiced with another materially different product wherein the product is capable of reconstructing an image based on either at least one R-R interval or on a combination of first and second sets of partial MR image data. It is on this basis that the Examiner concluded that the inventions are distinct. However, the language the Examiner used to identify the materially different products is taken from claims 10-18 of Group III and claims 19-24 of Group IV. That is, claim 10 calls for, in part, instructions that when executed cause a computer to "reconstruct an MR image by combining the first set of partial MR image data with the second set of partial MR image data." Claim 19 which is directed to an MRI apparatus includes a computer programmed to, in part, "reconstruct an MR image with the MR data acquired over at least one R-R interval as estimated by the time period stored." Thus, the "another materially different product" in which the process may be practiced is called for in claims 10-18 of Group III and claims 19-24 of Group IV. In short, the Examiner has concluded that the inventions of Groups III and IV are distinct from Groups I and II and that the basis for this distinction, according to the Examiner, lies in that Groups I and II are distinct from Groups III and IV. Simply, the Examiner has drawn a conclusion with respect to the distinctness of the claims and for support of the restriction thereof relies upon that unsupported conclusion.

Additionally, MPEP §806.05(h) requires that the Examiner provide an example of another materially different product in which the process as claimed can be practiced. In the instant case, the examples provided by the Examiner of "materially different products" are the "products" as defined by claims 10-18 and 19-24. As such, the Examiner has misunderstood the burden of supporting a basis for restriction. As set forth in MPEP §806.05(h), the burden is on the Examiner to support a viable alternative

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use or withdraw the requirement. As such, the requirement for restriction should be withdrawn as the Examiner has failed to provide an alternate use that is not defined by that which is presently called for in claims 1-32.

Applicant has enclosed herewith a Petition for Supervisory Review of this matter. Applicant believes the exercise of supervisory authority is warranted in the present case. As pointed out in the Election with Traverse filed April 21, 2003, the first action taken by the Patent Office in the present case was March 21, 2003, over two years since the application's filing date. Moreover, the action taken was a Restriction Requirement and therefore was not on the merits. Applicant responded to the Restriction Requirement and filed an Election with Traverse on April 21, 2003 and elected with traverse claims 1-9 of Group I. Responsive thereto, the Examiner issued a "restated" Restriction Requirement on July 15, 2003 with substantial regurgitation of the remarks provided in the first Restriction Requirement. Moreover, notwithstanding the election that was made on April 21, 2003, the Examiner has yet to provide an action on the merits with respect to the elected claimed invention. Accordingly, Applicant is concerned about the delay in examination of the present application and therefore believes that the prosecution history of the present application warrants supervisory review.

For all the above reasons as well as those presented in the first Election filed April 21, 2003, restriction is not proper in this case, and Applicant respectfully requests withdrawal of the Restriction Requirement and rejoinder of claims 1-32.

The Examiner is invited to call the undersigned to discuss this Restriction Requirement or any other matters regarding this application.

Respectfully submitted



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Dated: August 15, 2003  
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Patent  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : Saranathan et al.  
Serial No. : 09/681,068  
Filed : December 19, 2000  
For : Acquisition of High-Temporal Free-  
Breathing MR Images  
Group Art No. : 3742  
Examiner : Robinson, D.

**FAX RECEIVED****AUG 19 2003****GROUP 3700****CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10**

I hereby certify that, on the date shown below, this correspondence is being:

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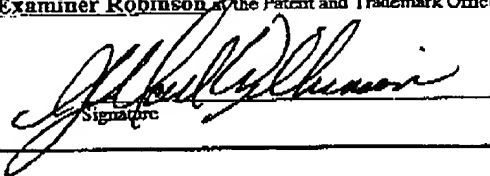
**37 CFR 1.8(a)****37 CFR 1.10**

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- ☐ transmitted by facsimile to Fax No.: 703-872-9302 addressed to Examiner Robinson of the Patent and Trademark Office.

Date: April 21, 2003

  
Signature

Assistant Commissioner for Patents  
Washington DC 20231

**ELECTION WITH TRAVERSE TO THE MARCH 21, 2003 OFFICE ACTION**

Dear Sir:

Docketed by: JH  
Date: 4/27/03

Responsive to the Restriction Requirement mailed March 21, 2003, please enter  
the following election with traverse:

INVENTOR: Saranthan et al.

S/N: 09/681,068

**ELECTION**

The Examiner has identified four groupings of claims, each corresponding to a one of the four independent claims, Group I containing claims 1-9, Group II containing claims 25-32, Group III containing claims 10-18, and Group IV containing claims 19-24. Applicant elects, with traverse, Group I, claims 1-9.

**TRAVERSAL REMARKS**

The Examiner states that Groups III and IV and Groups I and II are distinct because "(1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process using that product (MPEP § 806.05(h))." However, this is simply not the case. The Examiner identifies the "product" as Groups III and IV, claims 10-18 and 19-24. Claim 10, in part, calls for a computer program to "receive a time-period signal indicative of an R-R interval representing a cardiac cycle of a patient." Claim 10 continues by claiming the acquisition of a first and second set of partial MR image data over a first and second acquisition period equal to the R-R interval. Also, claim 19, in part, calls for a computer programmed to "acquire a time period of an R-R interval of the heart rate" and "acquire MR data for a time comparable to the time period stored." Similarly, claim 1, in part, calls for "recording...future R-R intervals" and "acquiring n sets of MR data, a first MR data acquisition commencing at any point in an R-R interval." Additionally, claim 25, in part, calls for "recording a time period of R-R interval" and "acquiring non-gated MR data using the time period recorded to estimate R-R intervals." Therefore, the claims share numerous common elements and as will be shown are not materially different. That is, although claims are not identical, it is simply not possible for this process, as claimed, to be practiced with a materially different product and the Examiner's own example proves such.

The Examiner failed to identify that "the product as claimed can be used in a materially different process of using that product." MPEP §806.05(h) states that the burden is on the Examiner to provide an example, but the example need not be documented. In this case, the Examiner has not provided a feasible example but instead states in generality that "the process can be practiced with another materially different product such as a product with a reconstructed image based on at least one R-R interval

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or on a combination of first and second sets of partial MR data." This statement is not a feasible example of how "the product as claimed can be used in a materially different process of using that product." MPEP §806.05(h).

The Examiner's statement is simply not an example. That is, summarily stating that "the process can be practiced with another materially different product such as a product with a reconstructed image based on at least one R-R interval or on a combination of first and second sets of partial MR data" is not example of an alternative product but an alternative process. Rather than give an example of an alternative product with which the process can be used, as required by MPEP §806.05(h), the Examiner has given an alternative process, i.e. to "reconstruct[] [an] image based on at least one R-R interval or on a combination of first and second sets of partial MR data" as the example. Therefore, the Examiner has failed to meet the burden required by MPEP §806.05(h) and the restriction must be removed.

Furthermore, "[i]f the Applicant either proves or provides a convincing argument that the alternative use suggested by the Examiner cannot be accomplished, the burden is on the Examiner to support a viable alternative use or withdraw the requirement." MPEP §806.05(h). Accordingly, since the alternative suggested by the Examiner does not meet the requirements as an example but instead actually illuminates that the process cannot be practiced with a materially different product, Applicant respectfully requests rejoinder of Groups III and IV and Groups I and II.

The Examiner next asserts that the "[i]nventions of Group IV and Group III are related as combination and subcombination. Applicant is unclear as to the reasoning of the Examiner's explanation. It is unclear what the Examiner means when the Examiner states that the "subcombination has separate utility such as a computer program." Claim 10 (Group III) actually calls for a computer program as does claim 19 (Group IV). As such, these groups are not distinct. Furthermore, the Examiner has not shown how "[t]he subcombination has separate utility such as a computer program." Specifically, claim 10 calls for a computer program for use with an MRI scanner and the body of the claim is replete with references to "MR image". The Examiner cites MPEP §806.05(c), yet did not follow the guidance of this section. Section 806.05(c) states:

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In order to establish that combination and subcombination inventions are distinct, two-way distinctiveness must be demonstrated.

To support a requirement for restriction, both two-way distinctness and reasons for insisting on restriction are necessary, i.e., separate classifications, status, or field of search. See MPEP §808.02.

The Examiner has not demonstrated that (1) two-way distinctness is present between the combination and subcombination, and (2) that there is a reason for insisting on restriction, such a separate classification, status, or field of search. In fact, the Examiner classified Groups I, II and IV in Class 600 and classified Group III in class 700. While the Applicant does not disagree that the Examiner should perform a thorough search and review all relevant subclasses, Applicant questions the appropriateness of class 700 identified by the Examiner for Group III. That is, the identified class 700 is designated for "generic control systems or specific applications." The Examiner has further decided that Group III is for "specific applications." That is, the Examiner has classified the group in subclass 90, which is for specific applications. However, subclass 90 clearly states that "[f]or classification herein, there must be significant claim recitation of the data processing system or calculating computer and only nominal claim recitation of the external art environment." However, claim 10 makes no reference to a data processing system or calculating computer in the body of the claim. Rather, only the preamble refers to a computer having a computer program. Furthermore, the preamble and body of the claim extend well beyond "nominal claim recitation of the external art environment." Specifically, the preamble clearly calls for "[a] computer program for use with an MRI scanner." Additionally, the body repeatedly calls for acquisition and then reconstruction of "MR image data." Accordingly, claim 10 clearly recites the external art environment within which the computer and computer program reside.

Additionally, the Examiner has classified Groups I, II and IV in Class 600. However, claim 19 (Group IV) specifically calls for "a computer programmed to...." As in claim 10 (Group III), claim 19 (Group IV) clearly calls for the external art environment. Therefore, Applicant does not see any relevant distinction between the claims 10 and 19 to justify such drastically different classifications.

Further, Section II of Section 806.05(c) states that "[i]f there is no evidence that combination AB<sub>SP</sub> is patentable without the details of B<sub>SP</sub>, restriction should not be



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required. In this case, referring to claim 10, if A is the MRI scanner with the associated hardware, and B<sub>SP</sub> is the computer programmed to perform certain acts, then it is quite clear that claim 10 is not patentable without the details of B<sub>SP</sub>. As set forth in Section II, in this situation, "the inventions are not distinct and a requirement for restriction must not be made, even though the subcombination [may have] separate utility."

Also, Applicant notes that just because the claims have different preambles does not in itself justify restriction. The elements of the claims also govern the appropriateness of a requirement for restriction. A review of the elements clearly dictates rejoinder of all pending claims. Accordingly, the Examiner's restriction of Groups IV and III as combination and subcombination is unsupported and inappropriate. Therefore, Applicant respectfully requests rejoinder of Groups IV and III.

The Examiner next stated that "[i]nventions Group I and Group II are unrelated." The Examiner supports this assertion with the sole statement that "Group I does not contain the step of increasing cardiac stress." Therefore, the Examiner appears to believe that because one independent claim contains an element not called for in a second independent claim, the inventions are unrelated. However, MPEP §808.01 is clear that inventions are independent "where they are not connected in design, operation, or effect under the disclosure of the particular application under consideration." Therefore, the Examiner has applied an incorrect standard. That is, groups are unrelated if not connected in design, operation, or effect -- not if they contain different steps, or one different step.

Claim 1, while "not contain[ing] the step of increasing cardiac stress," in part, calls for "monitoring heart rate of a subject just prior to image acquisition to acquire a time period of an R-R interval; recording the time period from the heart rate monitoring to prospectively estimate future R-R intervals; and acquiring n sets of MR data, a first MR data acquisition commencing at any point in an R-R interval and extending for the time period recorded." Similarly, claim 25, in part, calls for "acquir[ing] a time period of an R-R interval of the heart rate; stor[ing] the time period of the R-R interval;...and reconstruct[ing] an MR image with the MR data acquired over at least one R-R interval as estimated by the time period stored." Therefore, Groups I and II are connected in

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design, operation, and effect because they both call for a method to acquire MR data using R-R intervals.

Furthermore, applying the Examiner's logic from the instant restriction, separate independent claims are unrelated unless the claims have identical elements and limitations. Under the Examiner's logic, separate independent claims are impermissible within a single application. However, this is not the standard under MPEP §806.04. MPEP §806.04 states:

If it can be shown that the two or more inventions are in fact independent, applicant should be required to restrict the claims presented to but one of such independent inventions. For example:

(A) Two different combinations, not disclosed as capable of use together, having different modes of operation, different functions or different effects are independent. An article of apparel such as a shoe, and a locomotive bearing would be an example. A process of painting a house and a process of boring a well would be a second example.

(B) Where the two inventions are process and apparatus, and the apparatus cannot be used to practice the process or any part thereof, they are independent. A specific process of molding is independent from a molding apparatus which cannot be used to practice the specific process.

(C) Where species under a genus are independent, for example, a genus of paper clips having species differing in the manner in which a section of the wire is formed in order to achieve a greater increase in its holding power.

Therefore, the MPEP and its associated guidance require a different conclusion than reached by the Examiner. Simply, the conclusion that two or more inventions are in fact independent requires a strict factual inquiry that the Examiner has neglected and the claims do not support. Accordingly, Applicant respectfully requests rejoinder Groups I and II.

For all the above reasons, restriction is not proper in this case, and Applicant respectfully requests withdrawal of the Restriction Requirement and rejoinder of claims 1-32.

Furthermore, the present application has been pending since December 19, 2000. The first action received from the Patent Office was the Action of March 21, 2003. Simply put, the present application sat idle for over two years before an action was taken

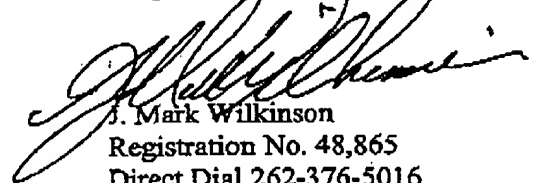
INVENTOR: Saranthan et al.

S/N: 09/681,068

and *that* action was a restriction requirement, i.e. not on the merits. As such, with the filing of this Response, it will be over two years and four months before a substantive review of the present application. Further, 37 CFR 1.142(a), second sentence, states: "[i]f the distinctness and independence of the invention be clear, such requirement will be made before any action upon the merits; however, it may be made at any time before final action in the case at the discretion of the examiner." MPEP §811 states that "this means the examiner should make a proper requirement as early as possible in the prosecution, in the first action if possible, otherwise, as soon as the need for a proper requirement develops." (emphasis added) In light of the pace of prosecution for the present application, Applicant requests a timely response and Office Action on the merits.

The Examiner is invited to call the undersigned to discuss this Restriction Requirement or any other matters regarding this application.

Respectfully submitted,



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